

# Air Source Heat Pumps

## Farmhouse, Brompton, Northallerton, North Yorkshire.



### Mitsubishi Ecodan 14KW Air Source Heat Pumps

We were contacted in 2009 and our clients were interested in renewables for a new farmhouse they were building on their farm.

After a site visit it was found to be most cost effective to install an Air Source Heat Pump, and complement the system with a Solar Thermal Solution, for all their hot water and under floor heating requirements.

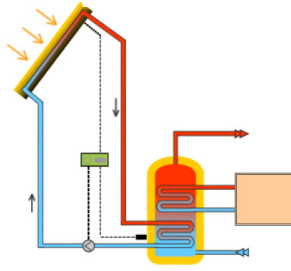
The Air Source Heat Pump works in a similar manner to a Ground Source, but takes the heat from the outside air.



Above: showing two 14kW Mitsubishi Ecodan Air Source Heat Pumps

## Solar Thermal - How does it work?

The solar collectors on the roof transfer the heat radiation from the sun through a copper back plate and into an anti-freeze based fluid in copper pipes, which pumps through to the bottom coil in the hot water cylinder. This heats up the water in the cylinder and switches off when the water is up to temperature. A system should provide 50 to 70% of the domestic hot water needs per year. The beauty of a solar thermal system means that your boiler doesn't need to be on in the summer for domestic water needs.



## The Benefits

- Provides free hot water heating
- Extends your boiler lifespan
- Adds value to your property

## THE SOLUTION

### Ecodan®

A new generation of heat pumps that help to achieve Level 3 of The Code for Sustainable Homes

A cost effective CO<sub>2</sub> reducing heating system

Easily installed - only requiring water and electric connections

Low running costs

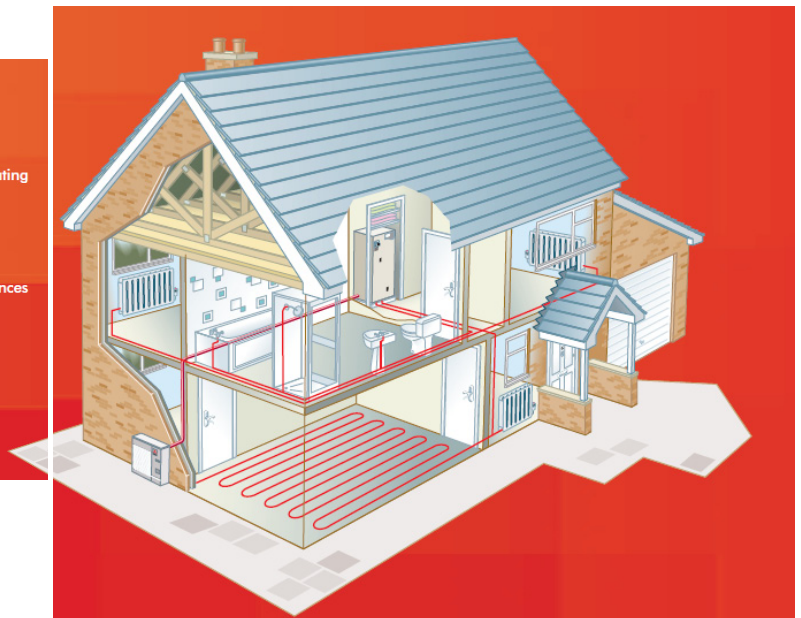
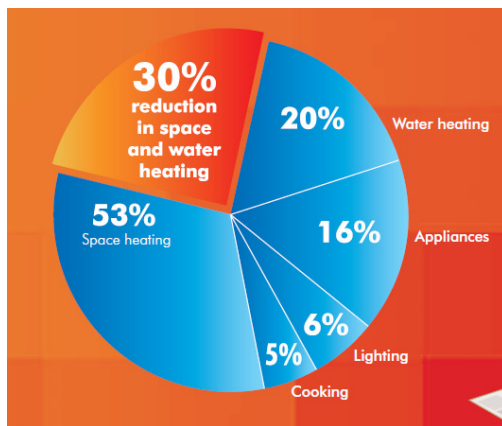
Low maintenance

Reliable, proven technology

Designed for domestic use

A heat pump extracts low temperature energy from the environment and increases its temperature for heating purposes. Heat pump efficiencies are normally quoted as the coefficient of performance of the system, these are typically in the range 3 to 5. In other words, extracting heat from renewable sources requires just 1kW of electrical input in order to generate 3kW to 5kW of heating output. Heat pump systems therefore, are 3 to 5 times more efficient than fossil fuel boilers and are more than capable of warming a house completely, even during the lowest winter temperatures. The increasing popularity of these heating systems is reflected by their overwhelmingly successful application in the cold climates of Scandinavia.

Millions of Heat Pumps are installed across Europe and the market is growing rapidly due to increasing awareness of the system's obvious benefits. Recent research indicates that during the last five years alone heat pump sales have doubled\*.



## Further information

[www.revolutionpower.co.uk](http://www.revolutionpower.co.uk) or

(01325) 320910 / 07823 771234

[www.lowcarbonbuildings.org.uk](http://www.lowcarbonbuildings.org.uk)